SEQUENCE ID LISTING

SEQ ID NO: 1 is the amino acid sequence of residues 33-79 of c-Jun.

SEQ ID NO: 2 is the nucleotide sequence for an N-terminal primer used for producing c-Jun truncation mutants.

SEQ ID NO: 3 is the nucleotide sequence for an N-terminal primer used for producing c-Jun truncation mutants.

SEQ ID NO: 4 is the nucleotide sequence for an N-terminal primer used for producing c-Jun truncation mutants.

SEQ ID NO: 5 is the nucleotide sequence for an N-terminal primer used for producing c-Jun truncation mutants.

SEQ ID NO: 6 is the nucleotide sequence for an N-terminal primer used for producing c-Jun truncation mutants.

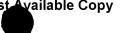
SEQ ID NO: 7 is the nucleotide sequence for a C-terminal primer used for producing c-Jun truncation mutants.

SEQ ID NO: 8 is the nucleotide sequence for a C-terminal primer used for producing c-Jun truncation mutants.

SEQ ID NO: 9 is the nucleotide sequence and deduced amino acid sequence for *c-jun* and *c-Jun*.

SEQ ID NO: 10 is the deduced amino acid sequence of c-Jun.







-63-

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SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANTS: Karin, Michael Hibi, Masahiko Lin, Anning

- (ii) TITLE OF INVENTION: ONCOPROTEIN PROTEIN KINASE
- (iii) NUMBER OF SEQUENCES: 10
 - (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Spensley Horn Jubas & Lubitz
 - (B) STREET: 1880 Century Park East, Suite 500
 - (C) CITY: Los Angeles
 - (D) STATE: California
 - (E) COUNTRY: USA
 - (F) ZIP: 90067/
 - (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTÉR: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US
 - (B) FÍLING DATE: 18 JUL-1994
 - (C) CLASSIFICATION:
- 25 (viii) ATTORNEY/AGENT INFORMATION:
 - (A)/ NAME: Wetherell, Jr., Ph.D., John R.,
 - (B) REGISTRATION NUMBER: 31,678
 - (d) REFERENCE/DOCKET NUMBER: PD-3701
 - (ix) TÉLECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (619) 455-5100
 - (B) TELEFAX: (619) 455-5110

| | (2) INFO | RMAT | ION FOR | SEQ ID 8 | NO:1: | | | , | | | | | | |
|----|----------|-------------------|---|-----------------------------------|------------------------|-----------|-----------|-----------|-----|-----|-----------|-----------|-----------|-----|
| 5 | (i) | (A (B (C | UENCE CH) LENGTH) TYPE:) STRAND) TOPOLO | I: 47 ami amino ac DEDNESS: | ino a id sing | cids | | | | | | | | |
| | (ii) | MOL | ECULE TY | ME: pept | ide | / | / | | | | | | | |
| | (vii) | | EDIATE S | | INK b | indi | ng s: | ite | | | | | | |
| 10 | (ix) | (A) | TURE:) NAME/K) LOCATI | - | | / | | | | | | | | |
| | (xi) | SEQ | JENCE DE | SCRIPTIO | n si | EQ II | ON C | :1: | | | | | | |
| 15 | Ile 1 | Leu | Lys Gln | Ser Met | Thr | Leu | Asn | Leu 10 | Ala | Asp | Pro | Val | Gly 15 | Ser |
| | Leu | Lys | Pro His 20 | Leu Arg | ; Ala | Lys | Asn 25 | Ser | Asp | Leu | Leu | Thr 30 | Ser | Pro |
| | Asp | Val | Gly Leu 35 | Leu Lys | Leu | Ala 40 | Ser | Pro | Glu | Leu | Glu 45 | Arg | Leu | |
| 20 | (2) INFO | RMATI | ON FOR | SEO ID N | 0:2: | | | | | | | | | |
| 25 | (i) | (A) (B) (C) | JENCE CH LENGTH TYPE: STRAND | : 35 bas nucleic EDNESS: | e pai acid singl | irs | | | | | •• | ÷ | | |
| 23 | | | TOPOLO | | | | | - | | | | | | |
| | (11) | MOLE | CÓLE TY | PE: DNA | (geno | omic) | | | | | | | • | |
| | (vii) | 1 | / EDIATE SO | | | | | | | | | | | |
| | • | (B) | CLONE: | N-termi | nal p | rime | r | | | | | | | |

| | (ix) FEATURE: | |
|----|---|----|
| | (A) NAME/KEY: CDS | |
| | (B) LOCATION: 135 | |
| | | |
| | | ~ |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2: | |
| 5 | TCTGCAGGAT CCCCATGACT GCAAAGATGG AAACG | 35 |
| | TOTOGRADIT GOOGRADITO AMOG | J- |
| | (2) INFORMATION FOR SEQ ID NO:3: | |
| | | |
| | (i) SEQUENCE CHARACTER/ISTICS: | |
| | (A) LENGTH: 34 base pairs | |
| | (B) TYPE: nucleíc acid | |
| 10 | (C) STRANDEDNESS: single | |
| | (D) TOPOLOGY: /linear | |
| | (ii) MOLECULE TYPE DNA (concein) | |
| | (ii) MOLECULE TYPE! DNA (genomic) | |
| | | |
| | (vii) IMMEDIATE SOURCE: | |
| | (B) CLONE: N-terminal primer | |
| | | |
| 15 | (ix) FEATURE: / | • |
| | (A) NAMÉ/KEY: CDS | |
| | (B) LOCATION: 134 | • |
| | | |
| | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3: | |
| | | 2. |
| , | TCTGCAGGAT CCCCGACGAT GCCCTCAACG CCTC | 34 |
| 20 | (2) INFORMATION FOR SEQ ID NO:4: | |
| | | |
| | (i) SEQUENCE CHARACTERISTICS: | |
| | (A) LENGTH: 35 base pairs | |
| | (B) TYPE: nucleic acid | |
| | /(C) STRANDEDNESS: single | |
| 25 | (D) TOPOLOGY: linear | |
| | | |
| | (ii) MOLECULE TYPE: DNA (genomic) | |
| | /. | |
| | (TIO(TDIATE COVERS | |
| | (vii) IMMEDIATE SOURCE: | |
| | (B) CLONE: N-terminal primer | |

| | (ix) FEATURE: | | | |
|-----|---|------------|---|----|
| | (A) NAME/KEY: CDS | | | |
| | (B) LOCATION: 135 | | | |
| | | | | |
| | | | | |
| | (x1) SEQUENCE DESCRIPTION: SEQ/ID NO:4: | | | |
| _ | | | | |
| 5 | TCTGCAGGAT CCCCGAGAGC GGACCTTATG CCTAC | | | 35 |
| | (2) INFORMATION FOR CEO ID NO. 5 | | | |
| | (2) INFORMATION FOR SEQ ID NO:5/ | | | |
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 35 base/pairs | | | |
| | (B) TYPE: nucleic acid | | | |
| 10 | (C) STRANDEDNESS: single | | | |
| | (D) TOPOLOGY: linear | | | |
| | | | | |
| | (ii) MOLECULE TYPE: DNA (genomic) | | | |
| | | | | |
| | | | | |
| | (vii) IMMEDIATE SOURCE: | | | |
| | (B) CLONE: N-terminal primer | | | |
| 4 = | (;) | | | • |
| 15 | (ix) FEATURE: / | | | |
| | (A) NAME/KÉY: CDS (B) LOCATION: 135 | | | |
| | (B) LOCATION. 133 | | | |
| | | | - | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5: | • | | |
| | | | ٠ | ٠ |
| | TCTGCAGGAT CCCCGCCGAC CCAGTGGGGA GCCTG | • | | 35 |
| | | . . | | |
| 20 | (2) INFORMATION FOR SEQ ID NO:6: | | | |
| | | | | |
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 35 base pairs | | | |
| | (B) TYPE: nucleic acid | | | |
| 05 | (C) STRANDEDNESS: single | | | |
| 25 | (Ď) TOPOLOGY: linear | • | | |
| | (ii) MOLECULE TYPE: DNA (concein) | | | |
| | (ii) MOLECULE TYPE: DNA (genomic) | | | |
| | | | | |
| | (vii) IMMEDIATE SOURCE: | | | |
| | (B) CLONE: N-terminal primer | | | • |
| | /-/ | | | |

| | (ix) FEATURE: | | |
|-----|--|--------------|----|
| | (A) NAME/KEY: CDS / | | |
| | (B) LOCATION: 135 | | |
| | (5, 51 51.05) | | |
| | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6: | | |
| | (112, 014,011,011,011,011,011,011,011,011,011, | | |
| 5 | TCTGCAGGAT CCCCAAGAAC TCGGACCTCC TCACC | | 35 |
| | | | |
| | (2) INFORMATION FOR SEQ ID NO:7: | | |
| | | | |
| | (i) SEQUENCE CHARACTERISTICS: | | |
| | (A) LENGTH: 30 base pairs | | |
| | (B) TYPE: nucleic acid | | |
| 10 | (C) STRANDEDNESS: single | | |
| | (D) TOPOLOGY:/linear | | |
| | | | |
| | (ii) MOLECULE TYPE: DNA (genomic) | | |
| | | | |
| | . / | | |
| | (vii) IMMEDIATE SOURCE: | • | |
| - | (B) CLONE C-terminal primer | | |
| ے ر | | | |
| 15 | (ix) FEATURE: / | | |
| | (A) NAMÉ/KEY: CDS (B) LOCATION: 130 | | |
| | (B) EXCEPTION. 130 | , | |
| | | | ٠. |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7: | | |
| | (,,,,,,, | | |
| | TGAATTCTGC AGCCGCTCCA GCTCGGGCGA | A Security (| 30 |
| | | | |
| 20 | (2) INFORMATION FOR SEQ ID NO:8: | | |
| | , | | |
| | (i) SEQUENCE CHARACTERISTICS: | | |
| | (A) LENGTH: 33 base pairs | | |
| | (B) TYPE: nucleic acid | | |
| | (C) STRANDEDNESS: single | | |
| 25 | (D) TOPOLOGY: linear | | |
| | | | |
| | (ii) MOLECULE TYPE: DNA (genomic) | | |
| | | | |
| | | | |
| | (vii) IMMEDIATE SOURCE: | | |
| | (B) CLONE: C-terminal primer | | |

| | (ix) FEATURE: | |
|----|---|------|
| | (A) NAME/KEY: CDS | |
| | (B) LOCATION: 133 | |
| | | |
| | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ'ID NO:8: | |
| | | |
| 5 | TGAATTCCTG CAGGTCGCCG TGGTGGTGAT GTG | 33 |
| | | |
| | /a) | |
| | (2) INFORMATION FOR SEQ ID NO 9: | |
| | (4) CEOUPNOS CHARACTER FOTTOS | |
| | (i) SEQUENCE CHARACTERISTICS: | |
| | (A) LENGTH: 2096 base pairs (B) TYPE: nucleic acid | |
| 10 | (C) STRANDEDNESS: single | |
| | (D) TOPOLOGY: Linear | |
| | (3, 33333331 / 33333 | |
| | (ii) MOLECULE TYPE: DNA (genomic) | |
| | | |
| | - | |
| | (vii) IMMEDIATE SOURCE: | |
| | (B) CLONE: Jun | |
| | | |
| 15 | (ix) FEATURE: / | |
| | (A) NAME/KEY: CDS | |
| | (B) LOCATION: 4121404 | |
| | | . • |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9: | |
| | (XI) SEQUENCE DESCRIPTION. SEQ ID NO. 9. | |
| | GAATTCCGGG GCGGCCAAGA CCCGCCGCCG GCCGGCCACT GCAGGGTCCG CACTGATCCG | 60 |
| | | |
| 20 | CTCCGGCGGA GAGCCGCTGC TCTGGGAAGT CAGTTCGCCT GCGGACTCCG AGGAACCGCT | 120 |
| | | |
| | GCGCACGAAG AGCCGTCAGT GAGTGACCGC GACTTTTCAA AGCCGGGTAG GGCGCGCGAG | 180 |
| | | |
| | TCGACAAGTA AGAGTGCGGG AGGCATCTTA ATTAACCCTG CGCTCCCTGG AGCAGCTGGT | 240 |
| | | 200 |
| | GAGGAGGGC CACGGGGACG ACAGCCAGCG GGTGCGTGCG CTCTTAGAGA AACTTTCCCT | 300 |
| | | 360 |
| | GTCAAAGGET CCGGGGGGGC CGGGTGTCCC CCGCTTGCCA CAGCCCTGTT GCGGCCCCGA | ,,,, |

| | AAC | rici(| GCG (| CGCA | CGCC | AA A | CTAA | CCTC | A CG | IGAA(| GTGA | CGG | ACTG | płc · | Me | G ACT t Thr | 417 |
|------|-----|-------|-------|------|-------------------|------|------|------|------|-------|------|-----|------|-------|-----|----------------|---------|
| 5 | | | | | ACG Thr | | | | | | | , | | | | | 465 |
| | | | | | AGG Arg | | | | | | - / | | | | | | 513 |
| 10 | | | | | ACC Thr | | | | | | | | | | | | 561 |
| 15 | | | | | GCC Ala 55 | | | | | | | | | | | | 609 |
| | | | | | CTG Leu | | | | | | | | | | | | 657 |
| 20 . | | | | | CAC His | | | | | | | | | | | | 705 |
| | | | | | GTG Val | | | | | | | | | | | | 753 |
| 25 | | | | | GCC | | | | | | | | | | | | 801 |
| 30 | | | | | CAG Gln 135 | | | | | | | | | | | | 849 |
| | | | | / | GCA Ala | | | | | | | | | | | | 897 |
| | CTG | CAC | AGC | GAG | CCG | CCG | GTC | TAC | GCA | AAC | CTC | AGC | AAC | TTC | AAC | CCA | 945 |

| | Leu | His | Ser 165 | Glu | Pro | Pro | Val | Tyr 170 | Ala | Asn | Leu | Ser | Asn 175 | Phe | Asn | Pro | | |
|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|-----|
| | GGC | GCG | CTG | AGC | AGC | GGC | GGC | GGG | GCG | CCC | TCC | TAC | GG¢ | GCG | GCC | GGC | 9 | 93 |
| 5 | Gly | Ala 180 | Leu | Ser | Ser | Gly | Gly 185 | Gly | Ala | Pro | Ser | Tyr 190 | GIA | Ala | Ala | Gly | | |
| | CTG | GCC | TIT | CCC | GCG | CAA | CCC | CAG | CAG | CAG | CAG | CAG | ccc | CCG | CAC | CAC | 10 | 41 |
| | Leu 195 | Ala | Phe | Pro | Ala | Gln 200 | Pro | Gln | Gln | Gln | Gln 205 | Gln | Pro | Pro | His | His 210 | | |
| | | | CAG | | | | | | | | | , | | | | | 10 | 89 |
| 10 | Leu | Pro | Gln | Gln | Met 215 | Pro | Val | Gln | His | Pro 220 | Arg | Leu | Gln | Ala | Leu 225 | Lys | | |
| | | | CCT | | | | | | | | 1 | | | | | | 11 | 37 |
| | Glu | Glu | Pro | Gln 230 | Ile | Val | Pro | Glu | Мет 235 | Pro/ | g/ly | Glu | Thr | Pro 240 | Pro | Leu | | |
| 15 | | | ATC | | | | | | | , | | | | | | | 11 | 85 |
| | Ser | Pro | Ile 245 | Asp | Met | Glu | Ser | Gln 250 | Glu / | Afg | Ile | Lys | Ala 255 | Glu | Arg | Lys | | |
| | CGC | ATG | AGG | AAC | CGC | ATC | GCT | GCC | TÇG | AAG | TGC | CGA | AAA | AGG | AAG | CTG | 12 | 33 |
| 20 | Arg | Met 260 | Arg | Asn | Arg | Ile | Ala 265 | Ala | Ser | Lys | Cys | Arg 270 | Lys | Arg | Lys | Leu | | |
| | GAG | AGA | ATC | GCC | CGG | CTG | GAG | GAA | AAA | GTG | AAA | ACC | TTG | AAA | GCT | CAG | 12 | 81 |
| - | G1u 275 | Arg | Ile | Ala | Arg | Leu 280 | GIu | Glu | Lys | Val | Lys 285 | Thr | Leu | Lys | Ala | Gln 290 | | |
| | 2.00 | | | | | | / | / | | ` | | | | | | | | |
| 25 | | | GAG Glu | | | | . / | | | | | | | | | | 13: | 29. |
| حی | ASII | ser | GIU | Leu | 295 | Ser | | ara | ASII | 300 | Leu | ALE | GIU | GLII | 305 | VIG | | |
| | CAG | CTT | AAA | CAC | AAA | GTC | ATG | AAC | CAC | GTT | AAC | AGT | GGG | TGC | CAA | CTC | 13 | 77 |
| | Gln | Leu | Lys | His 310 | Lys | Val | Met | Asn | His 315 | Val | Asn | Ser | Gly | Cys 320 | Gln | Leu | | |
| 30 | | | ACG | | | , | | | | TGAA | GAGA | GA C | CGTC | GGGC | G | | 14 | 24 |
| | Ile | Leu | Thr 325 | Gln | Gln / | Leu | Gln | Thr 330 | Phe | | | | | | | | | |
| | CTGA | LGGGG | CA A | CGAA | GAAA | A AA | AATA | ACAC | AGA | LGAGA | CAG | ACTI | GAGA | AC 1 | TGAC | CAAGT | T 14 | 84 |

| GCGACGGAGA GAAAAAAGAA GTGTCCGAGA ACTAAAGCCA AGGGTATCGA AGTTGGACTG | 1544 |
|---|------|
| GGTTCGGTCT GACGGCGCCC CCAGTGTGCA CGAGTGGGAA CCACCTGGTC GCGCCCTCCC | 1604 |
| TTGGCGTCGA GCCAGGGAGC GGCCGCCTGG GGGCTGCCCC GCTTTGCGGA CGGGCTGTCC | 1664 |
| CCGCGCGAAC GGAACGTTGG ACTTTCGTTA ACATTGACCA AGAACTGCAT GGACCTAACA | 1724 |
| TTCGATCTCA TTCAGTATTA AAGGGGGGCAG GGGGAGGGGG TTACAAACTG CAATAGAGAC | 1784 |
| TGTAGATTGC TTCTGTAGTA CTCCTTAAGA ACACAAAGCG GGGGGAGGGT TGGGGAGGGG | 1844 |
| CGGCAGGAGG GAGGTTTGTG AGAGCGAGGC TGAGCCTACA GATGAACTCT TTCTGGCCTG | 1904 |
| CTTTCGTTAA CTGTGTATGT ACATATATA ATTTTTTAAT TTGATTAAAG CTGATTACTG | 1964 |
| TCAATAAACA GCTTCATGCC TTTGTAAGTT ATTTCTTGTT TGTTTGTTTG GGATCCTGCC | 2024 |
| CAGTGTTGTT TGTAAATAAG AGATTTGGAG CACTCTGAGT TTACCATTTG TAATAAAGTA | 2084 |
| TATAATTTT TT | 2096 |
| (2) INFORMATION FOR SEQ ID NO:10: | · |
| (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 331 amino acids | |
| (B) TYPE: amino/acid | |
| (D) TOPOLOGY: finear | |
| (ii) MOLECULE TYPE: protein | |
| (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10: | |
| Met Thr Ala Lys Met Glu Thr Thr Phe Tyr Asp Asp Ala Leu Asn Ala 1 5 10 15 | |
| Ser Phe Leu Pro Ser Glu Arg Gly Pro Tyr Gly Tyr Ser Asn Pro Lys 20 25 30 | |
| Ile Leu Lys Gln Ser Met Thr Leu Asn Leu Ala Asp Pro Val Gly Ser 40 45 | |
| · | |

| | Asp 65 | | Gly | Leu | Leu | Lys 70 | Leu | Ala | Ser | Pro | Glu 75 | Leu | Glu | Arg | Leu | Ile 80 |
|----|------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Ile | Gln | Ser | Ser | Asn 85 | Gly | His | Ile | Thr | Thr 90 | Thr | /Pro | Thr | Pro | Thr 95 | Gln |
| 5 | Phe | Leu | Cys | Pro 100 | Lys | Asn | Val | Thr | Asp 105 | Glu | Gln | Glu | Gly | Phe 110 | Ala | Glu |
| | Gly | Phe | Val 115 | Arg | Ala | Leu | Ala | Glu 120 | Leu | His | Ser | Gln | Asn 125 | Thr | Leu | Pro |
| 10 | Ser | Val 130 | Thr | Ser | Ala | Ala | Gln 135 | Pro | Val | Asn | Gly | Ala 140 | Gly | Met | Val | Ala |
| | Pro 145 | | Val | Ala | Ser | Val 150 | Ala | Gly | Gly | Ser | Gly 155 | Ser | Gly | Gly | Phe | Ser 160 |
| | Ala | Ser | Leu | His | Ser 165 | Glu | Pro | Pro | / /Val | Tyr 170 | Ala | Asn | Leu | Ser | Asn 175 | Phe |
| 15 | Asn | Pro | Gly | Ala 180 | Leu | Ser | Ser | GLy | Gly 185 | Gly | Ala | Pro | Ser | Tyr 190 | Gly | Ala |
| | Ala | Gly | Leu 195 | Ala | Phe | Pro | Ala | Gln 200 | Pro | Gln | Gln | Gln | Gln 205 | Gln | Pro | Pro |
| 20 | His | His 210 | Leu | Pro | Gln | Gln | Met 215 | Pro | Val | Gln | His | Pro 220 | Arg | Leu | Gln | Ala |
| | Leu 225 | Lys | Glu | Glu | Pro | Gln 230 | Ile | Val | Pro | Glu | Met 235 | Pro | Gly | Glu | Thr | Pro 240 |
| | Pro | Leu | Ser | Pro | Ile 245/ | Asp | Mec | Glu | Ser | Gln 250 | Glu | Arg | Ile | Lys | Ala 255 | Glu |
| 25 | Arg | Lys | Arg | Met 260 | Arg | Asn | Arg | Ile | Ala 265 | Ala | Ser | Lys | Cys | Arg 270 | Lys | Arg |
| | Lys | Leu | Glu 275 | Arg | / /Ile | Ala | Arg | Leu 280 | Glu | Glu | Lys | Val | Lys 285 | Thr | Leu | Lys |
| 30 | Ala | Gln 290 | Asn | Ser | Glu | Leu | Ala 295 | Ser | Thr | Ala | Asn | Met 300 | Leu | Arg | Glu | Gln |

Val Ala Gln Leu Lys His Lys Val Mer Asn His Val Asn Ser Gly Cys 305 310 315 320

Gln Leu Ile Leu Thr Gln Gln Leu Gln Thr Phe 325 330